

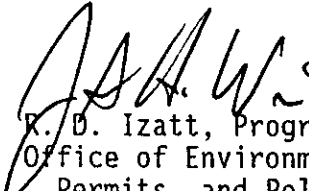
Messrs. Day and Jansen
92-RPB-131

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JUN 08 1992

If you have any questions, please contact Mr. R. N. Krekel of my staff on (509) 376-4264 or Ms. S. M. Price of WHC on (509) 376-1653.

Sincerely,


R. D. Izatt, Program Manager
Office of Environmental Assurance,
Permits, and Policy
DOE Richland Field Office



R. E. Lerch, Manager
Environmental Division
Westinghouse Hanford Company

Enclosure

cc w/encl:
H. L. Debban, WHC
D. L. Duncan, EPA
R. E. Lerch, WHC
S. E. McKinney, Ecology
D. C. Nylander, Ecology

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No.	Comment/Response	Ecology Concurrence
1.	<p><u>General Comment.</u> In general, the lack of detail in this closure plan led to a large number of deficiencies.</p> <p><u>Ecology Requirement:</u> Revise this plan so that it is in compliance with the requirements of WAC 173-303-610. For example, under WAC 173-303-610(3)(a)(iv), the closure plan must include, "a detailed description of the methods to be used during partial closures and final closure" This information is not presented in the closure plan.</p> <p>In addition, in Ecology's letter of May 2, 1990, to R. D. Izatt and R. E. Lerch from T. L. Nord, some comments were made on the DOE's proposed standardized outline for closure/postclosure plans. The suggestions made in these comments should be followed in order to improve this closure plan. Refer to the enclosed copy of this letter for guidance.</p> <p>DOE-RL/WHC Response No. 1: Additional detail will be provided where needed. The responses to the suggestions in Ecology's letter of May 2, 1990, are as follows.</p> <ol style="list-style-type: none"> Line numbering was used in this Revision 0 and will continue to be used. The Part A permit application will be moved from the introduction to a separate section. A brief description of each chapter and appendix will be included in the introduction, similar to Part B permit applications. A bar graph was included in Revision 0 and will continue to be used in the closure plan. This information will be included in a postclosure plan if one is required for this facility; however, this information is not required for a closure plan. Official notifications are provided in separate sections in Revision 0. Certification of Closure is a closure activity (Chapter 7.0) and is in Section 7.9. The Notice In Deed is part of the Postclosure (Chapter 8.0) and is in Section 8.1. <p>The schedule for closure is provided in Section 7.7 and in Figure 7-15.</p>	11/06/90 (Pending Review)

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		<p><u>Ecology Response No. 1 (Rev. 1)</u>: This requirement will be satisfied if all the other elements of the closure plan have been approved.</p> <p>DOE-RL/WHC Response No. 2: This NOD comment will be considered accepted when the other NOD comments are resolved.</p>
	4.	<p><u>Page 1-1, line 29</u>. The plan states that because the 304 Concretion Facility (304 Facility) is located in the 300-FF-3 (source) and 300-FF-5 (groundwater) Operable Units, "... any remedial action with respect to contaminants not associated with the facility will be deferred to the CERCLA process." This approach does seem reasonable for the soils underlying the 304 Facility structures, however, it is not sufficiently developed here or elsewhere in the closure plan for evaluation.</p> <p><u>Ecology Requirement</u>: The following must be presented in the closure plan so that the acceptability of the above approach may be evaluated:</p> <ul style="list-style-type: none"> Criteria to determine whether contamination should be addressed under the RCRA or CERCLA process. A postclosure plan which provides for administration of the site until closure of the applicable operable unit. <p>DOE-RL/WHC Response No. 1: Clarification and additional information will be provided, where appropriate, to evaluate the 304 Concretion Facility closure approach regarding the RCRA and CERCLA interface. In addition, a clearer definition of baseline and action levels will be provided with relationship to clean closure. The following paragraphs will be included in Chapter 6.0 of the closure plan.</p> <p>"Three important terms in the following information on the 304 Facility closure strategy are 'baseline', 'baseline threshold', and action levels'. Baseline is the set of analytical results of the local background samples. Baseline, therefore, refers to the population of constituent concentrations in the soil or building materials in the vicinity of the 304 Facility that are not attributable to the 304 Facility operations. Baseline threshold refers to concentrations that define an upper limit of the baseline population and is not to be</p>

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confused with the average baseline concentration. Baseline threshold concentrations will be determined by statistical methods such as those described in *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Final Guidance* (EPA 1989), e.g., the tolerance interval approach to the analysis of variance. Action levels are the constituent concentration levels that will prompt an action of some type. These actions would include additional evaluation, cleanup, or deferral to the CERCLA process. Action level values include concentrations based on risk to human health and the environment, baseline threshold concentrations, or other appropriate cleanup criteria.

Clean closure will be accomplished by demonstrating that the constituents used in the 304 Facility operations are not present above action levels. Reevaluation of the action levels will be considered if one or more of the action levels are exceeded by any of the compliance constituents listed in the table located in Section 7.3.2.2. This measure is proposed because contaminant concentrations for soil and concrete may exceed an action level; however, the concentrations may be significantly below any health or environmentally-based risk level. Any additional evaluation would be based on the following.

- Type and extent that action levels are exceeded.
- Further assessment of health-based risk using toxicity criteria guidance such as the EPA *Integrated Risk Information System* (IRIS) database (EPA 1989b), the *Technical Information Memorandum* (TIM) No. 86-1) (Ecology 1986), and other appropriate information.

If dangerous constituents are determined to exist in concentrations above action levels and reevaluation of action levels is not warranted, remediation of the soil will be evaluated under the CERCLA RI/FS process for the 300-FF-3 Operable Unit. Initial action levels for the constituents in the soil samples will be the baseline threshold values." Baseline samples will be obtained within the 300-FF-3 Operable Unit.

The proposed method of closure for the 304 Concretion Facility is clean closure. Therefore, a postclosure plan is not required unless the facility cannot be clean closed.

Ecology Response No. 1:

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	a)	DOE-RL/WHC proposes, "If dangerous constituents are determined to exist in concentrations above action levels and reevaluation of action levels is not warranted, remediation of the soil will be evaluated under the CERCLA RI/FS process for the 300-FF-3 Operable Unit." This is not acceptable. See comment numbers 17 and 60.
	b)	DOE-RL/WHC states that because the proposed method of closure for the 304 Concretion Unit is clean closure, "... a postclosure plan is not required unless the facility cannot be clean closed." A postclosure plan is required; this must be included in the next revision of the closure plan.
	c)	DOE-RL/WHC proposes to include a number of paragraphs within the text in order to clarify the definitions of "baseline," "baseline threshold," and "action level." These terms should be defined in a section for acronyms, abbreviations, and definitions similar to that provided in Part B permit applications. How these concepts will be used in developing the cleanup strategy to be implemented after obtaining the results of the sampling and analysis at the unit should be provided in both the form of a narrative and flowchart in the appropriate sections of the closure plan.

Ecology Requirement: Compliance with the above is required. Provide draft language to Ecology for interim guidance.

DOE-RL/WHC Response No. 2:

- a) The portion of Chapter 6.0 in question will now read as follows: "If dangerous constituents are determined to exist in the soil in concentrations above action levels, closure for the soil will take place after the remediation of the 300-FF-3 Operable Unit under the CERCLA RI/FS process. With the exception of imminent hazard, all soil remediation will take place under the CERCLA RI/FS process for the 300-FF-3 Operable Unit." See DOE-RL Response No. 2 for comment numbers 17 and 18.
- b) General information will be provided on the actions to be taken if dangerous constituents are left in the soil for the CERCLA RI/FS process remediation. Section 8.2, Postclosure Care, will contain the following text: "Postclosure care is generally required when a waste management facility cannot attain clean closure. At the 304

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Facility, underlying soils and groundwater may have been contaminated by waste generated during operations in the 300 Area. Under the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement), source contamination and groundwater will be investigated and remediated through the operable units under the CERCLA RI/FS process.

With the exception of an imminent health threat, all soil remediation will take place under the CERCLA RI/FS process. If the soil within the 304 Facility boundary is found to be contaminated (chemical concentrations above local background threshold and health based standards) from operations conducted (chemicals used or waste stored) in the 304 Facility, the facility will not be considered closed until the remediation under CERCLA is complete. During the time between closure of the building, floor, and pads and any soil remediation under CERCLA, steps will be taken to isolate any contamination.

Any data obtained from sampling and analyses during RCRA closure activities will be part of the record and included in the closure plan. This data will be taken into account and used during the CERCLA evaluation of the 300-FF-3 Operable Unit, as well as data collected specifically for the CERCLA evaluation.

Temporary covers will be installed, if necessary, to prevent migration of any contamination. The temporary covers would be less permeable than the surrounding soil and may be composed of constituents such as asphalt, clay, or a fixative spray. The existing facility floor and pads may be used as covers if they were found to be uncontaminated or were decontaminated. The exact nature of any covers would be determined at the time the need was identified and this information would be added to the closure plan. In addition, access to the areas of contamination would be controlled if necessary to protect personnel or prevent the migration of contamination.

During the period between closure and soil remediation under CERCLA, the facility area would be inspected at a minimum of once a week. This inspection would be combined with facility inspections presently conducted. The inspections would determine the need for maintenance of any temporary covers or other physical barriers. Any required maintenance would be performed by trained personnel from the Hanford Site."

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- c) The terms "baseline" and "baseline threshold" will be replaced by the terms "local background" and "local background threshold." These terms and the term "action levels" will be added to the List of Terms section of the closure plan and defined as follows:

"Local background"--The data set of chemical concentrations from analyses of samples obtained in the local vicinity of a facility. Samples within the facility will be compared to the local background data set to determine the presence or absence of contamination from the facility. For the 304 Facility the samples to determine the local background concentrations would be obtained within the 300-FF-3 Operable Unit.

Local background threshold--Refers to the chemical concentrations that define an upper limit of the local background population. It is not an average local background concentration. It is determined statistically (e.g., the tolerance interval approach to the analysis of variance).

Action levels--Chemical concentration levels that will prompt an action. Action level values will commonly be local background threshold concentrations and health and environmental based concentrations."

The flowchart indicates the closure strategy. This flowchart will be located in Chapter 6.0.

Ecology Response No. 2: Ecology is developing a policy for soil closure standards. It is anticipated that this policy will impact the proposals made by USDOE/WHC. In keeping with the Tri-Party Agreement, an integral part of this policy will be the goal of only one remediation at any unit; i.e., it will not be acceptable to postpone any part of the closure activities to the 300-FF-3 Operable Unit response. This closure policy will be made available to USDOE/WHC as soon as possible.

DOE-RL/WHC Response No. 3: Due to the delay in the release of the policy on soil closure standards being developed by Ecology, our position on these comments remain essentially the same.

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	<p>With the exception of an imminent health threat, it is still the position of DOE-RL and WHC to defer all soil remediation (if needed) to the CERCLA RI/FS remediation process. Deferring soil remediation to the CERCLA process would make any remediation more efficient and would avoid the possibility of cleaning a small area twice. If a larger area was being remediated, which extended around a smaller area that was previously remediated, the remediation could be very inefficient. One of the main purposes of the Tri-Party Agreement was to integrate RCRA and CERCLA activities. According to the Tri-Party Agreement ".... a procedure to coordinate the TSD unit closure or permitting activity is necessary to prevent overlap and duplication of work, thereby economically and efficiently addressing the contamination."</p> <p><u>Ecology Response No. 3 (Rev. 1):</u> See the N&MWMP Soil Cleanup Policy (SCP), attached to this NOD. In particular, options 2 and 3 are the only options under which any contaminants may remain in the soil above natural background levels. This closure plan will need to state which option this unit is intended to be closed under, and the levels to which the soil will be remediated. Please note that taking no action to remediate the soil, unless current soil contaminant levels are below the option 1 or 2 levels, will require full post-closure activities, including but not limited to ground water monitoring, capping, access restrictions, etc. This closure plan may contain the option of sampling the soil to determine contaminant levels prior to choosing the course of action, but the plan must include the full details of all possible options (i.e., post-closure requirements).</p> <p>DOE-RL/WHC Response No. 4: The position of DOE-RL and WHC remains the same on this comment. Applying an option from the Soil Cleanup Policy issued by Ecology to the closure plan would not be appropriate because it is the opinion of DOE-RL and WHC that the Soil Cleanup Policy issued by Ecology is flawed. The approaches or methods used to develop numerical cleanup standards were not based on well founded scientific principles or evidence. The numerical standards chosen in the policy are below the Model Toxics Control Act (MTCA) soil cleanup standards, which are conservative and were adopted after a comprehensive rule adoption process. Ecology provides no consistent or technically defensible basis for defining the concentration levels in the policy.</p> <p>Before any cleanup option could be chosen, integration with the Record of Decision (ROD) for the cleanup of the Operable Unit (300-FF-3) would have to be accomplished. One of the main purposes of the Tri-Party Agreement was to integrate RCRA and CERCLA activities. These</p>

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	activities include cleanup standards as well as the physical remediation of the site (if necessary). According to the Tri-Party Agreement ".... a procedure to coordinate the TSD unit closure or permitting activity is necessary to prevent overlap and duplication of work, thereby economically and efficiently addressing the contamination." It is the position of DOE-RL and WHC that the most logical, cost effective, efficient integration of RCRA and CERCLA in the 300 Area is to conduct all soil remediation, RCRA and CERCLA, at the same time and to the same cleanup standards.
	The position of DOE-RL and WHC remains the same on this comment. No requirements exist for providing a post-closure plan with the closure plan for a treatment or storage facility unless a decision is made to leave waste in place. If a decision is made to leave waste in place and close as a landfill, a post-closure plan would be required within 90 days [WAC 173-303-610(8)]. At this time no decision has been made to leave waste in place. The only other requirements for a post-closure plan are for waste disposal units, certain surface impoundments, and certain waste piles [WAC-173-303-610(8)]. The 304 Concretion Facility does not fall into these categories.
16.	<u>Page 6-1, line 6.</u> The plan states that the clean closure strategy for the facility is, "... contingent upon verifying that constituents originating from the 304 Facility are not present in concentrations that represent a threat to human health or the environment."
	<u>Ecology Requirement:</u> Consider costs in terms of time, money, and resources in evaluating the clean closure strategy pursued at this facility. Compare with the costs for closure based on the clean closure criteria delineated in WAC 173-303-610(2). Refer to the 2101-M Pond Closure Plan and the Model Toxics Control Act--Cleanup (WAC 173-303) in development for guidance.
	DOE-RL/WHC Response No. 1: An exposure scenario method like the one provided for the 2101-M Pond Closure Plan will be used for the <i>304 Concretion Facility Closure Plan</i> . The actual analysis for the exposure scenario will be conducted when sample analyses are obtained. The scenario will provide the criteria for comparing element concentrations to the risk to human health and the environment. These factors will then be evaluated for clean closure.

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	<p><u>Ecology Response No. 1:</u> The transcription of Ecology's NOD requirement incorrectly cites WAC 173-303 for the Model Toxics Control Act (MTCA). The citation as originally provided (WAC 173-340) is correct. Refer also to NOD comment number 18.</p> <p>DOE-RL/WHC Response No. 2: This was noted.</p> <p><u>Ecology Response No. 2 (Rev. 1):</u> The language in this section will need to be modified to reflect the closure option selected from the SCP. In particular the actions to be taken in the event clean closure is not achievable must be included with this section, including the postclosure plan.</p> <p>DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 4 for comment number 4.</p>
17.	<p><u>Page 6-1, line 13.</u> In the event that clean closure is not achievable, it is proposed that the 304 Facility be 'interim stabilized' and that closure and postclosure, "be performed in conjunction with the activities for the 300-FF-3 Operable Unit."</p> <p><u>Ecology Requirement:</u> More information is required to evaluate the acceptability of this approach. In order to facilitate this approach, the facility may be viewed as consisting of the three components (the building, the concrete and asphalt, and the underlying soil). Each of these parts may be separately evaluated for closure. Ecology will accept an approach that utilizes the following:</p> <ul style="list-style-type: none"> • The building must be removed • The concrete pad and asphalt layer must be removed or cleaned to background contamination levels • The soils should be cleaned and/or removed until only background contamination remains or if they can only be cleaned to baseline concentration levels (as defined in the 300 Area Solvent Evaporator Closure Plan) a postclosure plan with provisions for management under the CERCLA cleanup must be provided.

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	DOE-RL/WHC Response No. 1: The approach of separately evaluating the building and concrete pad or floor from the soil for clean closure will be adopted. An explanation of this approach will be included in the closure plan. A clearer definition of action levels and baseline will be provided (see DOE-RL/WHC Response No. 1 for comment number 4). If the chemical concentrations in the soil in an area that could have been potentially affected by the 304 Concretion Facility are below baseline (local background), the soil will be considered 'clean' as far as the 304 Facility is concerned and the facility will be clean closed. General contamination in the soil of the 300-FF-3 Operable Unit or contamination from nearby facilities will be evaluated under the CERCLA RI/FS process.

Ecology Response No. 1: For clean closure, the building and concrete and asphalt pads must be decontaminated to the contamination levels stipulated in WAC 173-303-610(2)(b) or removed from the unit boundaries. The approach proposed for the soil cleanup is unacceptable. The soil must be cleaned to at least area background levels (area background is defined in WAC 173-340-200). If contamination remains in the soil that exceeds the performance standards stipulated in WAC 173-303-610(2)(b), then the unit can not be clean closed. A postclosure plan that provides for management of the unit within the CERCLA cleanup must be prepared.

Ecology Requirement: Compliance with the above is required. See also comment number 60.

DOE-RL/WHC Response No. 2: To facilitate closure, the 304 Concretion Facility will be viewed as consisting of three components; the building, the floors and pads (concrete and asphalt), and the soil. These three components will be evaluated separately for closure of the facility. The building, concrete floor, and the concrete and asphalt pads will be decontaminated to Toxicity Characteristic Leaching Procedure levels, or removed.

With the exception of an imminent hazard, all necessary soil remediation will be accomplished under the CERCLA RI/FS process. If the soil within the 304 Facility boundary is found to be contaminated (chemical concentrations above local background threshold and health based standards) from operations conducted (chemicals used or waste stored) in the 304 Facility, the facility will not be considered closed until the remediation under CERCLA is complete. However, if chemical concentrations are below local background (within the 300-FF-3 Operable Unit) and health based standards, the 304 Facility will be considered closed. As described

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	<p>in the Tri-Party Agreement, any source contamination in the soil from past operations (such as manufacturing fuel rods) in the 300 Area, will be evaluated and remediated under the CERCLA RI/FS process. Methods used to determine chemical concentrations for health based standards will be scientifically and technically defensible, e.g., the Model Toxic Control Act, WAC 173-340.</p> <p>The flowchart (Figure 6-1) shows the closure strategy for the 304 Facility. Section 8.2, Postclosure Care, will contain the text shown in DOE-RL/WHC Response No. 2b for comment number 4.</p> <p><u>Ecology Response No. 2:</u> The acceptability of this proposal will be dependent on conformance with the Ecology closure policy which is in development. See number 4 for details.</p> <p>DOE-RL/WHC Response No. 3: Due to the delay in the release of the policy on soil closure standards being developed by Ecology, our position on these comments remain essentially the same.</p> <p><u>Ecology Response No. 3 (Rev. 1):</u> Again, the language in this section will need to be modified to reflect the closure options available for the 304 Concretion unit. In particular the postclosure elements of option 2 and/or 3 must be included in the plan.</p> <p>DOE-RL/WHC Response No. 4: See DOE-RL/WHC Response No. 4 for comment number 4.</p>
18.	<p><u>Page 6-1, line 38.</u> Criteria will be established for contamination levels that pose a substantial threat to human health or the environment in order to certify clean closure.</p> <p><u>Ecology Requirement:</u> This approach must be evaluated in comparison with the criteria delineated in WAC 173-303-610(2) (see comment number 16).</p> <p>DOE-RL/WHC Response No. 1: Additional information will be provided for evaluation. See DOE-RL Response No.1 for comment numbers 4, 16, and 17.</p>

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Ecology Response No. 1: The DOE-RL/WHC proposes to establish criteria for contamination levels that "post a substantial threat to human health or the environment" for certifying clean closure.

Ecology Requirement: Any criteria developed for threats to human health or the environment must be based on the cleanup standards of MTCA (WAC 173-340). Any criteria for closure must have Ecology concurrence. For clean closure, the cleanup standards are stated in WAC 173-303-610(2)(b).

DOE-RL/WHC Response No. 2: Methods used to determine chemical concentrations for health-based standards will be scientifically and technically defensible. The paragraph starting with line 30 on page 6-1, will be changed as follows:

"If the concentration of any constituent identified in Chapter 7.0, Table 7-1, is above the initial action level (local background), the action level will be reevaluated. This measure is proposed because contaminate concentrations for soil which may exceed an action level, may also be below any health or environmental-based risk level. Any additional evaluation would be based on; 1) the type and extent to which the action levels are exceeded, and 2) assessment of health-based risk. Health-based risk standards will be scientifically and technically defensible and criteria guidance will be used such as the Model Toxic Control Act, WAC 173-340 (Ecology ____), the EPA Integrated Risk Information System (IRIS) database (EPA 1989b), the Human Health Evaluation Manual (EPA 1989a), and other appropriate information. If dangerous constituents are determined to exist in the soil in concentrations above action levels, closure for the soil will be complete after the remediation of the 300-FF-3 Operable Unit under the CERCLA RI/FS process. With the exception of imminent hazard, all soil remediation will take place under the CERCLA RI/FS process for the 300-FF-3 Operable Unit."

See DOE-RL/WHC Response No. 2 for comment numbers 4 and 17.

Ecology Response No. 2: The Ecology policy for closure will cover health-based standards. See number 4.

DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 3 for comment number 17.

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	<p><u>Ecology Response No. 3 (Rev. 1):</u> This section must be revised to reference the SCP regarding closure standards for soils. Also, it will not be possible to leave soil contaminants for later remediation under the operable unit. See comment number 4.</p>
	<p>DOE-RL/WHC Response No. 4: See DOE-RL/WHC Response No. 4 for comment number 4.</p>
20.	<p><u>Page 6-2, line 4.</u> Sole use of concrete cores from this facility to establish baseline values for inorganic and organic contamination is proposed. This is objectionable for a number of reasons, chief among these are the following:</p>
	<ul style="list-style-type: none"> • This facility may have suffered facility-wide contamination during the life of its operations in which case, the baseline values would be established using contaminated samples • This facility has had a number of building additions; more than just one concrete pour was used to construct this facility. Some of these are in areas with certain contamination and are, therefore, unsuitable for 'baseline' samples • Coring concrete is not a technologically sound method for detecting volatile organics.
	<p><u>Ecology Requirement:</u> Baseline concrete contamination levels established from cores taken at this facility must be compared to concrete contamination levels from sites not impacted by past practices. Cleanup levels for clean closure should be established subject to the results of this comparison. Volatile organic contamination levels must be determined using thermal desorption mass spectrometry or an equivalent method. Refer to the 300 Area Solvent Evaporator Closure Plan for guidance in sampling and analyzing concrete and associated subsoils.</p>
	<p>DOE-RL/WHC Response No. 1: Concrete slabs could have wide variations in concentrations of inorganic elements, depending where the cement and aggregate were obtained. Because of the potential for wide variations, a concrete background sample must be taken from the same pour.</p>
	<p>A concrete background sample will be obtained by taking a core of the concrete slab in an area where contamination is least likely and away from cracks or other potential pathways.</p>

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The concrete slabs are approximately 6 inches thick. The core will be cut into four equal sections perpendicular to the core and each section analyzed. The analytical results from each section will be compared to determine the baseline for the concrete slab.

The center and lower portion of a 6-inch concrete slab would not be contaminated from the operations conducted in the 304 Facility, even if the surface was contaminated by some method (i.e., spill), unless a pathway or crack existed. The contamination assessment conducted for the *300 Area Solvent Evaporator Closure Plan* indicated that water with solvents would not penetrate the concrete more than 3/8 inch, and TCE and PCE no more than 2 millimeters under the scenario outlined. The scenario would be worse than a worse-case scenario in the 304 Facility. This information will be included in the text.

Ecology Response No. 1: The DOE-RL/WHC proposes sole use of samples obtained within the 304 Concretion Unit for establishing background concrete contamination levels. This is not acceptable.

Ecology Requirement: Concrete samples from areas not subject to contamination must be used for establishing a background concrete contamination value.

DOE-RL/WHC Response No. 2: Although the original proposal for obtaining background samples is valid, there may be problems in ensuring representative samples due to the aggregate in the concrete and in the number of samples necessary for statistical validity. An appropriate alternative method may be the Toxicity Characteristic Leaching Procedure (TCLP) to demonstrate the concentrations of constituents in the concrete are below regulatory concern, i.e., if they are below the TCLP limits, they are not deleterious to the environment or human health. The advantages to this approach would be the use of established procedures, fewer samples, less impact on the facility, and less uncertainty in the results.

Ecology Response No. 2: This approach seems reasonable but too narrow in scope; following the designation procedure delineated under WAC 173-303-070 will be acceptable. This may not be sufficient for clean closure, however, and it will be necessary to closure in accordance with the N&MWMP closure policy under development. See number 4.

DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 3 for comment number 17.

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Ecology Response No. 3 (Rev. 1): It continues to be the position of Ecology that concrete background must be determined from samples taken at units not impacted by past practices. Ecology is requiring that four samples be taken at different concrete "pours" around the Hanford Facility. These samples will be fully characterized and compared in order to determine what the potential range of constituent concentrations may be found in concrete pours. This approach will determine what constituents are commonly contained in concrete, and the range of variation in different pours. In addition, it will clarify what, if any, dangerous waste constituents are commonly or potentially contained in the concrete at dangerous waste designation levels. The constituents of concern that may be found in concrete should only be inorganic elements. If the variation between samples is not significant statistically, a median value for each element could be determined, and this median value could possibly be applied to other units undergoing closure at the Hanford Facility (e.g. 303-K, and 105-DR). Even if there are wide variations between the samples for certain elements, the information obtained through the sampling and analyses will help determine whether there is a potential designation problem with uncontaminated concrete. DOE-RL/WHC/PNL must submit a proposal for this background sampling to Ecology for approval prior to sampling.

DOE-RL/WHC Response No. 4: This comment is a step backward from Ecology's previous position on obtaining background for concrete samples (see Ecology Response No. 2 for comment 20) and is not acceptable. The latest proposal from Ecology for obtaining concrete background samples is not statistically or scientifically defensible.

Concrete at the Hanford Site can have wide variations in concentrations of inorganic elements, depending where the cement, sand, and aggregate were obtained and the amount of each used. The concentrations of the inorganic elements could vary as much or more (depending on the source of the cement, sand, and aggregate) as the concentrations found in sitewide background study for soil. Because of the potential for these wide variations, any concrete background samples must be obtained from the same pour as the concrete to be sampled for contamination. If background samples cannot be obtained from the same pour, an analytical method must be used that will reduce the possibility of extracting constituents from the aggregate and sand (i.e., dissolving part of the aggregate and sand). In addition there can be problems in ensuring representative concrete background samples due to the size and amount of the aggregate present and obtaining enough samples necessary for statistical

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	<p>validity. For these reasons the TCLP extraction method is the preferable method to be used on concrete samples for inorganic constituents.</p> <p>The TCLP analytical method is designed for measuring the concentrations of constituents introduced or mobilized into the environment and is not as likely to extract elements from the aggregate and sand as will the aggressive 3050 (SW-846) extraction method. This method also will determine if the potential contamination constituents are below regulatory concern. If the constituents are below the TCLP regulatory limits, they are not deleterious to the environment or human health.</p> <p>The TCLP extraction method has the advantages of an established procedure, less likely to leach elements from the sand and aggregate, less uncertainty in the results, fewer samples, less impact on the facility, and the potential for generating less waste. The TCLP extraction method will also help eliminate the problem of erroneous designation resulting from the 3050 extraction method (e.g. essentially all soils will designate in accordance with the present designation criteria due to trace amounts of naturally occurring elements such as arsenic and lead).</p>
21.	<p><u>Page 6-2, line 12.</u> Baseline contamination levels for asphalt will be established similarly to concrete. The same objections apply in this case as in establishing concrete baseline contamination levels.</p> <p><u>Ecology Requirement:</u> Asphalt contamination levels must also be compared with contamination levels for samples taken at a site not affected by past practices (see response number 20).</p> <p>DOE-RL/WHC Response No. 1: As with the concrete, the concentration of various elements in asphalt could vary greatly. Contamination would only penetrate a relatively small amount into an asphalt pad from a spill or other potential contamination unless a pathway existed. The center and lower portions of an asphalt pad would not be contaminated unless a pathway such as a crack existed. Therefore, a core of an asphalt pad divided into several sections could be used for baseline samples (see DOE-RL/WHC Response number 1 for comment number 20). This information will be included in the text.</p> <p><u>Ecology Response No. 1:</u> The DOE-RL/WHC proposes sole use of samples obtained within the</p>

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	<p>304 Concretion Unit for establishing background asphalt contamination levels. This is not acceptable.</p> <p><u>Ecology Requirement:</u> Asphalt samples from areas not subject to contamination must be used for establishing a background asphalt contamination value.</p> <p>DOE-RL/WHC Response No. 2: Asphalt sampling would be accomplished in the same manner as concrete; taking chip samples and using TCLP methods for analysis. See DOE-RL/WHC Response No. 2 for comment number 20.</p> <p><u>Ecology Response No 2:</u> This approach will be acceptable under the same caveats as for concerts. See number 20.</p> <p>DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 3 for comment number 17.</p> <p><u>Ecology Response No 3 (Rev. 1):</u> A process similar to the concrete background plan outlined in comment number 20 will be used for asphalt. See comment number 20.</p> <p>DOE-RL/WHC Response No. 4: See DOE-RL/WHC Response No. 4 for comment number 20.</p>
23.	<p><u>Page 6-2, line 19.</u> The plan states, "initial action levels for the inorganic constituents in the soil samples will be the baseline threshold values obtained from the compositions of the baseline samples." It is not clear what this statement means.</p> <p><u>Ecology Requirement:</u> Define clearly what is meant by "initial action levels." State clearly which 'baseline' samples the soil cleanup levels will be based on. These must be samples obtained from similar soil types that are not impacted by past practices; demonstrate that this criterion has been met. Refer to WAC 173-303-610(2)(b) for dangerous waste cleanup levels. Refer also to the 300 Area Solvent Evaporator Closure Plan for guidance.</p> <p>DOE-RL/WHC Response No. 1: This statement will be redefined using the information shown in DOE-RL Response No. 1 for comment number 4. Additional information on the baseline samples will be provided.</p>

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DOE-RL/WHC Response No. 2: Action levels are defined as chemical concentration levels that will prompt an action. The initial or first action level the sample analysis data would be compared to is the local background (within the 300-FF-3 Operable Unit) threshold value (defined in DOE-RL Response No. 2c for comment number 4). The second action level the sample analysis data would be compared to is health and environmental based risk values.

Local background threshold values will be based on soil samples obtained within the 300-FF-3 Operable Unit. When the location of these samples have been determined, they will be included in the closure plan. Local background samples will not be taken in places of obvious contamination from past operations conducted in the 300 Area, however, any general contamination (if present) from past operations would be included. If general or source contamination exists, it would be from past practice operations and not from operations conducted in the 304 Facility.

The local background sample analyses results will be analyzed statistically, using the tolerance interval test, to determine if the chemical concentrations from each sample are from a "hot spot." The purpose of the tolerance interval approach is to define a concentration range from local background data, within which a large proportion of the monitoring observations should fall with high probability. Any "hot spots" would fall outside of this range and not be included in the determination of the local background threshold (the initial action level).

Ecology Response No. 1: It is not clear if this proposed background determination is to be used as part of the Hanford Site-Wide background study. If it is not, this should be clearly stated. If it is, this evaluation of the vadose zone background contaminated vadose zone data to the 300 Area background data must be between the same soil horizons for this unit and others, the plan must be expanded to include deeper soil horizons. Refer to the Hanford Site-Wide soil background study for reference.

In the quoted statement, the first sentence is unsubstantiated and the second sentence is not in agreement with the general tenor of the Tri-Part Agreement and will not be in accordance with the closure policy under development by the N&MWMP. The quoted statement should be deleted.

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	DOE-RL/WHC Response No. 3: Soil samples from the 304 Concretion Facility will be compared to local background determined from samples obtained within the 300 Area and is not part of the Hanford Site-Wide background study. Due to the potential for general contamination throughout the 300 Area from past practice operations, it would be inappropriate to use Site-wide background for comparison to the 304 Concretion Facility samples. The locations for the 300 Area local background determinations have not been determined. When these locations are determined, the information will be added to the closure plan. Information on the 300 Area local background sampling can be found in Section 7.3.2.5.1 of the closure plan.

While it may not be substantiated, it is logical to assume any general contamination in the 300 Area would not be the result of the minor activities associated with the 304 Concretion Facility. Any general contamination would likely be from past practice operations such as fuel fabrication activities.

The second sentence is not in the closure plan.

Ecology Response No. 2 (Rev. 1): The use of 300 area local background levels for comparison to the 304 Concretion unit soil background levels is no longer the appropriate method. In order to qualify for a "clean closure" under WAC 173-303 it will be necessary to show that no contaminants remain in the soil that exceed the Hanford Facility-wide background levels, as determined by the Characterization and Use of Soil and Groundwater Background for the Hanford Site (Hoover and LeGore, 1991). Following approval by Ecology of this study and the findings, they will become the standards used for background closures at the Hanford Facility.

DOE-RL/WHC Response No. 4: It is still the position of DOE-RL and WHC that a TSD unit is only responsible for the constituents managed at that particular unit. This is substantiated by WAC 173-303-610(2)(b)(i) and (ii). Due to the potential for wide spread contamination in the 300 Area from past practice operations, such as fuel fabrication, it would be inappropriate to use site-wide background (which excluded the 300 Area) for comparison to samples from the 300 Area. Any general contamination would be from past practice operations and remediated with the 300-FF-3 operable unit.

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24.	<p><u>Page 6-2, line 29.</u> Verification sampling of soils will be conducted if any soil is removed as part of the closure strategy. It is not clear what the procedure for verification sampling is.</p> <p><u>Ecology Requirement:</u> Describe the verification sampling procedure in the appropriate section. Refer to the description here.</p> <p>DOE-RL/WHC Response No. 1: The text will be modified to read: "If soil is removed, verification samples will be collected from the excavation site to determine the effectiveness of any soil removal. The number of samples collected will be dependant on the areal extent of contamination encountered, but will be no less than one sample from the area previously determined to be contaminated."</p> <p><u>Ecology Response No. 1:</u> The proposed language is acceptable, but further information is required on this topic in the sampling and analysis plan to adequately describe the verification sampling.</p> <p><u>Ecology Requirement:</u> Describe the sampling and analytical parameters for the verification sampling. This must include the sample size, target analytes, and quality assurance/quality control plan. Refer to the 2101-M Pond Closure Plan for guidance.</p> <p>DOE-RL/WHC Response No. 2: Due to the position of all soil remediation being conducted under the CERCLA RI/FS process, the text shown in DOE-RL/WHC Response No. 1 of this comment has been deleted.</p> <p><u>Ecology Response No. 2 (Rev. 1):</u> With the issuance of the SCP, it is not appropriate for soil remediation to be deferred to the CERCLA process. Text addressing the verification sampling of excavated sites must be discussed in the appropriate section of this closure plan. This verification sampling should reflect the closure standards of the SCP.</p> <p>DOE-RL/WHC Response No. 3: The Soil Cleanup Policy issued by Ecology and the integration of RCRA and CERCLA remediation are two different issues. The Soil Cleanup Policy as presently written does nothing to integrate RCRA and CERCLA remediation activities. It is still the</p>

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		position of DOE-RL and WHC to integrate these activities according to the Tri-Party Agreement. See DOE-RL/WHC Response No. 4 for comment number 4.
		Because soil remediation will be conducted under the CERCLA RI/FS process, a discussion of verification sampling is not necessary in this plan.
	25.	<p>Page 6-2, line 37. The general closure procedures listed in this section are not consistent with the closure flowchart in Figure 6-1.</p> <p><u>Ecology Requirement:</u> Resolve discrepancies and clarify the closure procedures list and flowchart as necessary. Revise the plan accordingly.</p> <p>DOE-RL/WHC Response No. 1: The general closure procedures will be made consistent with the flowchart shown in Figure 6-1.</p> <p>DOE-RL/WHC Response No. 2: The flowchart (Figure 6-1, and Section 6.2, General Closure Procedures, have been revised for consistency.</p> <p><u>Ecology Response No. 1:</u> The flowchart is acceptable but will probably require some revision to accommodate the closure policy currently under development. The proposed text seems a little sketchy; further details must be provided in later text. It will also need to be revised to accommodate the closure policy under development. See number 4.</p> <p>DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 3 for comment number 17.</p> <p><u>Ecology Response No. 2 (Rev. 1):</u> Figure 6-1 will need to be revised to reflect the SCP standards. In particular, the flow path for soils will need to be changed, since deferral to the CERCLA process is not appropriate.</p> <p>DOE-RL/WHC Response No. 4: It is still the position of DOE-RL and WHC to integrate RCRA and CERCLA activities for soil remediation. See DOE-RL/WHC Response No. 4 for comment number 4 and the first paragraph in DOE-RL/WHC Response No. 3 for comment number 24.</p>

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27.	<p data-bbox="210 332 1696 397"><u>Page 6-5, line 15.</u> The plan states that required soil remediation will be performed under the CERCLA RI/FS process.</p> <p data-bbox="210 430 1696 560"><u>Ecology Requirement:</u> Soil remediation must clean to baseline contamination levels as defined in the 300 Area Solvent Evaporator Closure Plan. State or reference the criteria for soil remediation to be performed under the CERCLA RI/FS process. This would be appropriately addressed in the postclosure plan.</p> <p data-bbox="210 592 1696 657">DOE-RL/WHC Response No. 1: The text will be expanded to indicate the option of cleaning to baseline if feasible. A flowchart will be included in the closure plan.</p> <p data-bbox="210 690 1696 755"><u>Ecology Response No. 1:</u> The DOE-RL/WHC proposes expanding the text "to indicate the option of cleaning to baseline if feasible."</p> <p data-bbox="210 787 1696 885"><u>Ecology Requirement:</u> Cleaning the unit's soils to at least area background contamination levels is not optional. Revise the closure strategy as necessary to reflect this. See comment numbers 17 and 60.</p> <p data-bbox="210 917 1696 1015">DOE-RL/WHC Response No. 2: With the exception of imminent danger, all soil remediation will be conducted under the CERCLA RI/FS process. See DOE-RL/WHC Response No. 2 for comments number 17 and the flowchart.</p> <p data-bbox="210 1047 1696 1144"><u>Ecology Response No. 2:</u> This is unacceptable, see previous Ecology NOD's for this unit. Additionally, it will be in conflict with the Ecology closure policy in development. See number 4 for additional details.</p> <p data-bbox="210 1177 1696 1209">DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 3 for comment number 4.</p> <p data-bbox="210 1242 1696 1307"><u>Ecology Response No. 3 (Rev. 1):</u> This section of the plan must be revised to follow the SCP. See comment number 4.</p> <p data-bbox="210 1339 1696 1369">DOE-RL/WHC Response No. 4: See DOE-RL/WHC Response No. 4 for comment number 4.</p>

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28.	<p>Page 6-5, line 41. Interim stabilization of contaminants due to sources other than this facility is discussed in this section. It is not clear how it will be determined that contamination is due to operations at this facility rather than another.</p> <p><u>Ecology Requirement:</u> State clearly the criteria for determining if a contaminant is due to widespread contamination in the 300-FF-3 Operable Unit. Also state what the policy for widespread contamination originating from the 304 Facility will be (see comment number 27).</p> <p>DOE-RL/WHC Response No. 1: If soil sample analyses taken at the 304 Facility are above the established baseline (local background) concentration for a particular element shown in Table 7-1, the amount of contamination above baseline was probably from the 304 Facility (see DOE-RL/WHC Response No. 1 for comment numbers 4 and 17). Constituents not listed in Table 7-1 (not used in the facility) will be considered to have been from other facilities.</p> <p>A postclosure plan is not required if the facility is clean closed.</p> <p><u>Ecology Response No. 1:</u> In order to clean close the 304 Concretion Unit, the contamination levels of dangerous wastes and dangerous waste residues must be decontaminated or removed to meet the performance standards stipulated in WAC 173-303-610(2)(b).</p> <p><u>Ecology Requirement:</u> This requirement must be integrated within the closure plan. See numbers 17 and 60.</p>	04/03/91
	<p>DOE-RL/WHC Response No. 2: The closure strategy and the criteria to obtain closure are explained in DOE-RL/WHC Response No. 2 for comment numbers 4, 17, and 18, and in the flowchart (Figure 6-1).</p> <p><u>Ecology Response No. 2 (Rev. 1):</u> The language in this section regarding soil remediation must be changed. Specifically, soils which do not meet performance standards will not be left for remediation under CERCLA. Also, interim stabilization referenced here must be explained in greater detail in Chapter 8 . 0, in order for option 2 of the SCP to be utilized.</p> <p>DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 4 for comment number 4 and the first paragraph of DOE-RL/WHC Response No. 3 for comment number 24.</p>	

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32.	<p><u>Page 7-3, line 1.</u> Sampling of only the top 1 foot of soil is proposed. This is deficient; sampling of only the top 1 foot of soil will not adequately describe the contamination at this site.</p> <p><u>Ecology Requirement:</u> Develop a sampling and analysis plan that will determine the contamination at this site as required under WAC 173-303-610(3)(a). Refer to comment number 32 of the 303-K Storage Facility Closure Plan NOD.</p> <p>DOE-RL/WHC Response No. 1: Information to date suggests any potential organic or inorganic contamination from the 304 Facility would be located in the upper most part of the soil column. However, the soil sampling depth will be reevaluated using contamination scenarios and assessments similar to those presented in the <i>300 Area Solvent Evaporator Closure Plan</i>. The objective of these assessments will be to determine the most likely location in the soil column of any potential contamination from this facility. The information will be presented and discussed with Ecology in a future unit managers meeting.</p> <p><u>Ecology Response No. 1:</u> Development of a soil sampling plan based on the 300 Area Solvent Evaporator (300 ASE) is inappropriate; the 300 ASE is located on top of a burial ground.</p> <p><u>Ecology Requirement:</u> The soil sampling plan must address vadose zone contamination at this unit.</p> <p>DOE-RL/WHC Response No. 2: The previous response referencing the 300 Area Solvent Evaporator Closure Plan was in error. The reference should have been to the 2101-M Closure Plan.</p> <p>It can be shown that concentrations of inorganic constituents added to the soil by sorption from an effluent containing even drinking water levels of these constituents are greatest in the upper few millimeters, and decreases with increased thickness of the soil column. Due to the well known process of sorption (Conway 1982, Freeze and Cherry 1979, CRC 1984), any contamination remaining in the soil would be the result of equilibrium reactions and/or irreversible sorption. In either case, residual contamination would be most concentrated in the uppermost part of the soil column, with rapidly decreasing concentrations downward. Therefore, the uppermost part of the soil column is most likely to contain contamination if it is present.</p>

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	<p>It is also indicated that any contamination of the soil by organic solvents associated with the facility is likely to be small and, if present, dominate in the uppermost part of the soil column. The only possibility for contamination of the soil is the one-time wash down of the inside of the building following the repackaging of the degreaser solvents (no spills were reported). The wash down was the last activity to occur in the building and was performed with a garden hose. Most of the water was flushed to the building sumps and thus the process sewer.</p> <p>The only pathway for the organic contaminates to the soil would have involved the transport of a very small fraction of this water to the soil through cracks in the concrete floor. Due to the relatively small amount of potentially contaminated water, the general lack of evaporation under the concrete floor, and the tendency for such water to be retained in the soil, any potential organic contamination from this source is most likely to be present in the upper part of the soil column.</p> <p>Because the potential contamination from the 304 Facility would remain in the upper part of the soil column, a maximum sampling depth of two feet would be adequate. During soil sampling, a sample will be obtained at the surface, at one foot, and at two feet.</p> <p><u>Ecology Response No. 2:</u> While it is correct that sorbed contaminants would be expected to be in the uppermost layer, assuming that all contaminants will sorb is not correct. See, for example, Freeze and Cherry 1979 or W. B. Mills et al., <u>Journal of Association of Ground Water Scientists and Engineers</u>, March-April 1991.</p> <p>Samples must be taken at the soil-concrete and soil-asphalt interfaces, one foot, two feet, and three feet depths. The closure plan must describe the sampling methods, sample size, and analytical methods to be employed. The closure plan must also have detailed provisions for the case where contamination is detected at three feet (the lowest horizon). This contingency must be provided for in the scheduling of the closure activities. More specifically, the closure plan must have plans for resampling to greater depths and removal/remediation of contamination at depths greater the initial soil sampling. In addition, all phases if the closure activities must occur in a timely fashion (including any resampling and removal/remediation necessary). See number 23.</p>

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	DOE-RL/WHC Response No. 3: The soil sampling for the 304 Concretion Facility Closure Plan now states samples will be taken at the surface, one ft, 2 ft, and 3 ft. However, it is still the position of DOE-RL and WHC to only sample to a maximum of three feet. Any deeper sampling and analyses will be conducted during the CERCLA RI/FS process. See DOE-RL/WHC Response No. 3 for comment response number 4.
	<u>Ecology Response No. 3 (Rev. 1)</u> : This section must be re-evaluated in light of the SCP. Sampling plans for the various scenarios possible at the 304 Concretion unit must be explained fully. For example, it will be necessary to characterize the soil beneath the 304 Concretion unit and to compare the values for the soil with the SCP. Once the soil has been characterized it can be determined what closure option is most appropriate.
	DOE-RL/WHC Response No. 4: It is still the position of DOE-RL and WHC to only sample to a maximum of three feet, as suggested by Ecology in Ecology Response No. 2 of this comment. Any deeper sampling and analyses will be conducted during the investigation and remediation of the 300-FF-3 operable unit. Soil will be sampled under the floor and pads where potential pathways (e.g. cracks and joints) to the soil exist. See DOE-RL/WHC Response No. 4 for comment number 4.
35.	<u>Page 7-4</u> . Table 7-1 lists a limited number of the potential compliance constituents at the 304 Facility.
	<u>Ecology Requirement</u> : The analysis to be performed must cover a more comprehensive range of chemicals; the analyses should not be limited to detect only the contaminants resulting from concretion operations (see comment numbers 33 and 34).
	DOE-RL/WHC Response No. 1: The compliance constituents for the 304 Facility are listed in Table 7-1. These constituents are the hazardous substance used in the building and would be the only potential contaminants in the building and are the substances to be evaluated for closure. Any contamination in the soil by other substances will be evaluated under the CERCLA RI/FS process.
	<u>Ecology Response No. 1</u> : Because of the past uses of this building, it is not possible to determine conclusively what type of contaminants will be expected due to past practices. For

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clean closure, it is required that all dangerous wastes or waste residues (including soil) be cleaned or removed to the performance standards stipulated in WAC 173-303-610(2)(b). Levels of contamination in the soils above these performance standards but below area background values may be managed under the CERCLA cleanup if this is provided for within the postclosure plan.

Ecology Requirement: Revise the closure plan to comply with the above. See comments 17 and 60.

DOE-RL/WHC Response No. 2: The chemicals stored and used in the past operations and the waste treated and stored over the life of the 304 Facility are known. The newly added table (see DOE-RL/WHC Response No. 2 for comment number 14) will be reevaluated to determine if any potentially hazardous substance was omitted from the compliance list (Table 7-1) of the closure plan. According to WAC 173-303-610, the 304 Facility is only responsible for hazardous substances managed at the 304 Facility. Any contamination in the soil from operations in the 300 Area will be evaluated and remediated under the CERCLA RI/FS process for the 300-FF-3 Operable Unit. See DOE-RL/WHC Response No. 2 for comment numbers 4, 17, and 18.

Ecology Response No. 2: The reevaluation is acceptable but implementation may be impacted by the closure policy under development (as discussed at the February 12, 1991, UMM). See number 4.

DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 3 for comment number 17. 3.

Ecology Response No. 3 (Rev. 1): The primary impact to this section by the SCP will be the expansion of the soil analyte parameters to include full characterization of the soils underlying the 304 Concretion unit. See comment number 4. In regard to the constituents to be analyzed, all of the analytes included in the SW-846 test methods selected for use in this sampling plan should be included in the data report. In other words, for SW-846 method 6010, all of the elements listed in Table 1 of that section should be included in the analyses. These expanded analyte parameters will add to the information available for evaluating the potential contamination at the 304 Concretion unit due to unknown chemicals stored here in the past.

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	DOE-RL/WHC Response No. 4: The chemicals stored and used in the past operations and the waste treated and stored over the life of the 304 Facility are known. According to WAC 173-303-610(2)(b)(i) and (ii), the 304 Facility is only responsible for hazardous substances managed at the 304 Facility. Any contamination in the soil from past practice operations or other TSD units in the 300 Area will be evaluated and remediated according to the appropriate regulations.
37.	<p>Page 7-5, line 3. The plan states, "wipe samples will be collected according to standard sampling techniques" No reference to the source of these standard techniques is given.</p> <p><u>Ecology Requirement:</u> The specific source(s) for these standard sampling techniques must be referenced. Accepted sampling and testing methods are given in WAC 173-303-110. Deviations from these methods must be described within the closure plan and approved by Ecology prior to implementation.</p> <p>DOE-RL/WHC Response No. 1: The wipe sampling procedure was based on the procedure in <i>A Compendium of Superfund Field Methods</i>, EPA P-87-001 (OSWER Directive 9335.0-14). The specific procedure is found in Section 13.1 of the referenced document. This information will be provided in the closure plan. Enhancements to the procedure will be fully described in the closure plan.</p> <p><u>Ecology Response No. 1 (Rev. 1):</u> The information contained in DOE-RL/WHC response number 1 concerning the EPA wipe sampling procedure "A compendium of Superfund Field Methods, EPA P-87-001", has not been added to this section. If it has been added to this section, or another section of this plan, it can be pointed out at the next Unit Managers meeting, and this issue will be closed. However, if it has not been added, it must be included before this issue can be closed.</p> <p>DOE-RL/WHC Response No. 2: The procedure in <i>A Compendium of Superfund Field Methods</i>, EPA P-87-001 (OSWER Directive 9335.0-14) is referenced in the 304 Concretion Facility Closure Plan, Revision 1 on Page 7-6 in Section 7.3.2.4.1.3 Surface Sampling Methodology.</p>

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38.	<p><u>Page 7-5, line 4.</u> The plan states that wipe samples will be analyzed for the organic compounds listed in Table 7-1.</p> <p><u>Ecology Requirement:</u> Table 7-1 is too limited in scope for the potential organic contaminants in the 304 Facility (see comment number 35).</p> <p>DOE-RL/WHC Response No. 1: The organic compounds and their degradation compounds listed in Table 7-1 are the organic chemicals that were repackaged in the facility. These substances are the only regulated organic compounds associated with the facility and will be evaluated for closure (see DOE-RL/WHC Response No. 1 for comment number 35).</p> <p><u>Ecology Response No. 1:</u> Analysis for only a limited number of organic compounds is proposed, see comment number 35.</p> <p><u>Ecology Requirement:</u> A more comprehensive list of organic analytes must be evaluated.</p> <p>DOE-RL/WHC Response No. 2: The organic compounds listed in the closure plan and on the compliance list (Table 7-1), along with their degradation products, are the only organic chemicals associated with the 304 Facility. According to WAC 173-303-610, the facility is responsible for the chemicals used in the facility. Therefore, analysis and evaluation of other organic chemicals is not required.</p> <p><u>Ecology Response No. 2:</u> This is unacceptable. See number 35.</p> <p>DOE-RL/WHC Response No. 3: The position of DOE-RL and WHC is still that stated in DOE-RL/WHC Response No. 2 for comment number 38.</p> <p><u>Ecology Response No. 3:</u> See comment number 35</p> <p>DOE-RL/WHC Response No. 4: See DOE-RL/WHC Response No. 4 for comment number 35.</p>
44.	<p><u>Page 7-19, line 9.</u> Concrete and asphalt 'baseline' samples will be taken from the outside storage pad and floor of the building. This area is subject to contamination from past operations.</p>

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	<p><u>Ecology Requirement:</u> Background samples for the concrete and asphalt must be taken in an area that has not been exposed to contamination.</p> <p>DOE-RL/WHC Response No. 1: Concrete and asphalt baseline samples will be located, as much as possible, away from activities and potential pathways in the facility (see DOE-RL Response No. 1 for comment numbers 20 and 21).</p> <p><u>Ecology Response No. 1:</u> Concrete and asphalt background samples may not be obtained within a TSD unit.</p> <p><u>Ecology Requirement:</u> Refer to comment numbers 20 and 21.</p> <p>DOE-RL/WHC Response No. 2: See DOE-RL/WHC Response No. 2 for comment numbers 20 and 21.</p> <p><u>Ecology Response No. 2 (Rev. 1):</u> See comment numbers 20 and 21.</p> <p>DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 4 for comment number 20 and 21.</p>
50.	<p><u>Page 7-31, line 45.</u> Procedures for personnel decontamination will be provided in a sitewide health and safety plan.</p> <p><u>Ecology Requirement:</u> These procedures must be discussed within the closure plan.</p> <p>DOE-RL/WHC Response No. 1: A Hanford Site-Wide Health and Safety Plan is being prepared to describe health and safety activities for sampling activities. The plan is currently undergoing final comment incorporation and is expected to be completed by the end of the calendar year.</p> <p><u>Ecology Response No. 1:</u> The DOE-RL/WHC proposes that the requirement for the unit-specific personnel decontamination procedures be provided in the Hanford Site-Wide Health and Safety Plan.</p>

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	<p><u>Ecology Requirement:</u> The unit-specific plan must be presented within the unit's closure plan. It is anticipated that the health and safety plan for the 304 Concretion unit will be more detailed than that for the site-wide. Refer to comment number 54.</p> <p>DOE-RL/WHC Response No. 2: A Site-Wide Health and Safety Plan is being prepared and will be referenced in the closure plan. In addition, the 304 Facility specific health and safety plan will be prepared prior to sampling and added to the closure plan at that time. This plan is titled <i>Hazardous Waste Operation Permit</i> and will be prepared in accordance with EII 2.2, <i>Preparation of Hazardous Waste Operation Permit</i>.</p> <p><u>Ecology Response No. 2:</u> This is not acceptable. This plan must be submitted prior to approval of the closure plan; sufficient time for Ecology review is required. The health and safety plan must be included with the next submittal.</p> <p>DOE-RL/WHC Response No. 3: The position of DOE-RL and WHC is still that stated in DOE-RL/WHC Response No. 2 for comment number 50.</p> <p><u>Ecology Response No. 3 (Rev. 1):</u> As discussed at the December 19th, 1991 Unit Managers meeting, it may be acceptable to defer submittal of the Health and Safety Plan until just prior to sampling at the site. This is contingent upon the submittal of an example Hazardous Waste Operation Permit to Ecology. The exact details of the timing of HASP submittal and the sampling plan/closure plan approval will be discussed at future Unit Managers meetings.</p> <p>DOE-RL/WHC Response No. 4: An example of a Hazardous Waste Operations Permit will be sent to Ecology.</p>	
54.	<p><u>Page 7-33, line 8.</u> The health and safety plan specific to the 304 Facility is not yet prepared and, therefore, not presented in the closure plan.</p> <p><u>Ecology Requirement:</u> The 304 Facility health and safety plan must be presented within the closure plan.</p>	

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	DOE-RL/WHC Response No. 1: The 304 Facility Health and Safety Plan will be prepared and included in the closure plan. This plan is titled <i>Hazardous Waste Operation Permit</i> and will be prepared in accordance with EII 2.2, <i>Preparation of Hazardous Waste Operations Permit</i> .
	DOE-RL/WHC Response No. 2: See DOE-RL/WHC Response No. 2 for comment number 50.
	<u>Ecology Response No. 1:</u> See number 50.
	DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 3 response number 50.
	<u>Ecology Response No. 2 (Rev. 1):</u> See response number 50.
	DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 4 for comment 50.
60.	<u>Page 7-35, line 39.</u> The plan states, "soils affected by other operations will be left in place and managed under CERCLA." This criterion is not appropriate; soils impacted in a larger portion of the 300-FF-3 Operable Unit will be appropriately addressed under the CERCLA cleanup, but only if the 304 treatment, storage, and/or disposal unit is affected, it should be cleaned under the RCRA closure.
	<u>Ecology Requirement:</u> Restate this criterion to reflect the above.
	DOE-RL/WHC Response No. 1: The sentence will be changed to read: "Soils affected by other facilities in the 300 Area will be left in place and managed under CERCLA."
	<u>Ecology Response No. 1:</u> There appears to be some confusion about the strategy acceptable to Ecology. This unit is being permitted to close under WAC 173-303, therefore, the performance standards of WAC 173-303-610 must be met. Ecology has determined that if clean closure of the soils to these standards is not appropriate due to wide-spread contamination throughout the 300-FF-3 Operable Unit, then the soils must be cleaned to a local area background contamination levels and the RCRA postclosure must be managed within the requirements of the CERCLA closure.

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	<p><u>Ecology Requirement:</u> Ecology will accept a closure plan in which soils with contamination levels exceeding the performance standards stipulated under WAC 173-303-610(2)(b) may be left in place under the following two conditions:</p> <ul style="list-style-type: none"> • The contamination levels do not exceed the area background contamination levels present throughout the 300-FF-3 Operable Unit • The RCRA postclosure plan provides for management of the 304 Concretion Unit within the CERCLA cleanup.

Revise the closure plan accordingly.

DOE-RL/WHC Response No. 2: The closure strategy for the 304 Facility is presented in DOE-RL/WHC Response No. 2 for comment numbers 4, 17, 18, and the flowchart (Figure 6-1).

Ecology Response No. 2: See number 4.

DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 3 for comment number 4.

Ecology Response No. 3 (Rev. 1): The SCP will impact this section. Namely, it is not acceptable to leave contaminated soils that exceed the SCP performance standards in place for remediation under the CERCLA process.

DOE-RL/WHC Response No. 4: See DOE-RL/WHC Response No. 4 for comment number 4 and the first paragraph in DOE-RL/WHC Response No. 3 for comment number 24.

62. Page 7-36, line 5. All equipment will be decontaminated or disposed of, "according to regulatory requirements."

Ecology Requirement: State clearly what is meant by the above statement.

DOE-RL/WHC Response No. 1: The sentence will be revised to read: "In addition, all equipment used during closure activities will be decontaminated or disposed of according to EIs 4.2, 5.4, and 5.5.

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(Pending Review)

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	<p><u>Ecology Response No. 1:</u> The DOE-RL/WHC states, "... equipment used during closure activities will be decontaminated or disposed of according to EII's 4.2, 5.4, and 5.5."</p> <p><u>Ecology Requirement:</u> This is acceptable pending Ecology's review of the cited EII's. Ecology anticipates that these will be reviewed as part of the development of the Hanford Site-Wide Permit.</p> <p><u>Ecology Response No. 2 (Rev. 1):</u> There are portions of these documents, particularly E.I.I. 4.2, that are not acceptable practices. For example, it is not acceptable at this facility to delay the marking of the accumulation date for suspected hazardous waste until after the waste has been verified as dangerous waste or it meets the requirements of section 6.4 of E.I.I. 4.2. In general, these documents are open-ended and vague, and do not consistently comply with WAC 173-303. It may be more efficient to write specific requirements for decontamination and interim storage of suspected dangerous waste than to try to change the E.I.I.'s.</p> <p>DOE-RL/WHC Response No. 2: RCRA sampling and remediation will follow the site wide procedure concerning investigative derived waste. EII 4.2 is presently being revised.</p>
65.	<p><u>Page 8-1, line 25.</u> Replace, "(legal description of 304 Concretion Facility Site)," with the legal description.</p> <p>DOE-RL/WHC Response No. 1: The WAC 173-303-610(10) does not require this information if the facility is clean closed. In addition, the information would not be provided until after remediation because the size of the area remediated would not be known.</p> <p><u>Ecology Response No. 1:</u> The DOE-RL/WHC argues that a legal description of the unit is not required at this time because: a) it is not required under WAC 173-303 if the unit is clean closed, or b) if it is not clean closed, the information would not be provided until after remediation because the size of the area to be remediated would not be known.</p> <p><u>Ecology Requirement:</u> In order to plan a cleanup of this unit, it is necessary to know the boundaries. Ecology realizes that there is some difficulty in obtaining the precise legal boundaries at this point in time, however, we also recognize that boundaries must be</p>

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	<p>determined in order to determine the scope of the cleanup for this unit. Provide the legal description of this unit when the information is available. In the interim, provide a description and illustration of the boundaries of this unit for use in the closure of the unit. Note that the asphalted area surrounding the building will be considered part of this unit. The sampling plan must be revised to incorporate this area.</p> <p>DOE-RL/WHC Response No. 2: For the purpose of closing the 304 Facility, the boundaries of the facility have been determined to be halfway to the neighboring facility on the east, west, and south and to the street on the north. The boundary is illustrated in Figure 2-3. This figure will be added to the closure plan. The asphalt on the sides of the building will be included in the sampling plan.</p> <p><u>Ecology Response No. 2 (Rev. 1):</u> The legal description of the facility has not been added to the postclosure section. Page 8-1, line 25.</p> <p>DOE-RL/WHC Response No. 3: The resolution to this comment was accepted by Ecology (see DOE-RL/WHC Response No. 2 for this comment). The figure referred to in DOE-RL/WHC Response No. 2 for this comment, along with the boundary discussion, is located in the 304 Concretion Facility Closure Plan, Revision 1. The discussion is located in the first paragraph of Section 2.2 on Page 2-1 of the closure plan, while the figure is located on Page 2-4.</p> <p>66. <u>Page 8-2, line 10.</u> No postclosure plan is provided and none will be until it is shown that the site is not remediable under the CERCLA closure effort.</p> <p><u>Ecology Requirement:</u> A postclosure plan with provisions for management under the CERCLA cleanup effort must be provided.</p> <p>DOE-RL/WHC Response No. 1: A postclosure plan is not required unless the facility is not clean closed. If the soil cannot be clean closed, a section will be added to the closure plan describing the interim stabilization and care prior to remediation under the CERCLA RI/FS process.</p> <p><u>Ecology Response No. 1:</u> The DOE-RL/WHC proposes to provide a postclosure plan if the soil can not be clean closed which will describe, "... the interim stabilization and care prior to</p>

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remediation under the CERCLA RI/FS process." This is not adequate for the purposes of a postclosure plan. The postclosure plan must be provided with the closure plan. It must provide for management of the unit through the CERCLA closure process. Refer to WAC 173-303-610(7) for guidance. It will not be necessary to implement the postclosure plan if the performance standards of WAC 173-303-610(2)(b) for clean closure are met.

Ecology Requirement: Compliance with the above is required.

DOE-RL/WHC Response No. 2: The text shown in DOE-RL/WHC Response 2 for comment number 17 will be added to the closure plan. This text indicates the steps that will be taken between closure of the building and remediation of the soil by the CERCLA RI/FS process if the soil requires remediation from contamination caused by operations conducted in the 304 Facility.

Ecology Response No. 2: See number 4.

DOE-RL/WHC Response No. 3: See DOE-RL/WHC Response No. 3 for comment number 50.

Ecology Response No. 3 (Rev. 1): All the possible options for closure of the 304 Concretion unit must be explained in detail within the closure plan. This includes the postclosure plan if one of the options for this unit is to leave dangerous waste and/or constituents in place. In the past DOE-RL/WHC have stated that their intention is to leave dangerous waste in place in the soil. If this is the closure approach for this facility, then it is necessary to submit a postclosure plan along with a permit application. WAC 173-303-610 calls for the postclosure plan to be submitted with the permit application within 90 days following the decision by the owner or operator or the department that the unit must be closed as a landfill (i.e., dangerous waste will be left in place upon closure).

DOE-RL/WHC Response No. 4: DOE-RL and WHC have not stated that the intention is to leave waste in place in the soil at this unit. DOE-RL and WHC have stated that, with the exception of an imminent health threat, all soil remediation will take place under the CERCLA RI/FS process for the 300-FF-3 Operable Unit. A final decision on the remediation of the soil will not be made until after the sampling is complete and the ROD for the operable unit is prepared. See DOE-RL/WHC Response No. 4 for comment number 4 and the first paragraph of DOE-RL/WHC Response No. 3 for comment number 24.

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68.	<p data-bbox="218 375 1283 412"><u>Page B-1, line 2.</u> The table title indicates a 5 percent frequency.</p> <p data-bbox="218 440 1346 477"><u>Ecology Requirement:</u> Describe what this 5 percent frequency refers to.</p> <p data-bbox="218 505 1703 639">DOE-RL/WHC Response No. 1: The 5 percent frequency refers to a random sampling of 5 percent of the gridded sections that are shown on the sampling diagrams. Each area to be sampled has been broken down into 1 meter grids, 5 percent of which will be randomly sampled. As this information is not relevant to random number tables, it will be deleted.</p> <p data-bbox="218 667 1654 737"><u>Ecology Response No. 1:</u> The DOE-RL/WHC explains the table title indication of a 5 percent frequency.</p> <p data-bbox="218 764 1667 867"><u>Ecology Requirement:</u> This type of information should be provided in the quality assurance/quality control section of the closure plan. Refer to the 2101-M Pond Closure Plan in development for guidance.</p> <p data-bbox="218 894 1703 964">DOE-RL/WHC Response No. 2: A random five percent sampling of the 1 meter square gridded area is stated in Section 7.3.2.5, Sampling Locations.</p> <p data-bbox="218 992 1682 1127"><u>Ecology Response No. 2 (Rev. 1):</u> The wording following the dash in the Table B-1 title should be deleted. The new title will read: "The 304 Wall Sampling Locations." Please note that Table B-1 on page B-2 also needs to be corrected. Correct the other table titles in B-2 as necessary.</p> <p data-bbox="218 1154 1444 1192">DOE-RL/WHC Response No. 3: The changes will be made as suggested by Ecology.</p>

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